IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant	:	Petrus J.L. van Beek			
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Examiner	:	Cehic, Kenan			
Docket No.	:	SLA1425 (7146.0168)			
Customer No.	:	55648			
Title	:	WIRELESS VIDEO TRANSMISSION SYSTEM			

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Commissioner for Patents
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AMENDMENT

Sir:

In response to the final Office Action mailed August 29, 2011, please amend the above-identified application as follows:

Amendments to the Specification are not included in this paper.

Amendments to the Claims are reflected in the listing of claims that begins on page 2 of this paper.

Amendments to the Drawings are not included in this paper.

Remarks/Arguments begin on page 6 of this paper.

An **Appendix** is not included in this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-22 (Canceled).

23 (Currently amended). A method for transmitting data from a transmitter that transmits data received from an input to said transmitter, said method comprising:

(a) defining a first average rate to transmit a first plurality of packets of said data for presentation to a user at a receiver;

(b) defining a second average rate to transmit a second plurality of packets of said data comprising a subset of said first plurality of packets, wherein said second plurality of packets is less than said first plurality of packets, wherein said second average rate is greater than said first average rate;

(c) [[a]] said transmitter, at a predetermined time, automatically and without regard to any change in the rate of data received through said input, increasing the rate of transmission to said receiver of said second plurality of packets over a wireless interconnection to said second average rate; and

(d) estimating the bandwidth of said wireless interconnection based on respective arrival times, at said receiver, of only those ones of said first plurality of packets for presentation to said user at said receiver that are included in said second plurality of packets.

24 (Previously presented). The method of claim 23 wherein said second plurality of packets are provided to said transmitter at the maximum rate.

25 (Previously presented). The method of claim 23 wherein said second plurality of packets are provided as a burst of packets with at least two packets transmitted in a back-to-back fashion without other packets between them.

26 (Canceled).

27 (Previously presented). The method of claim 23 wherein all packets of said second plurality of packets contain at least one of audio data and video data.

28 (Previously presented). The method of claim 23 wherein said second plurality of packets is transmitted in a duration less than 1 second.

29 (Previously presented). The method of claim 23 wherein said transmitting is by an APPLICATION LAYER.

30 (Previously presented). The method of claim 23 wherein said transmitting is by a transport layer.

31 (Previously presented). The method of claim 23 wherein said transmitting is by a network layer.

32 (Canceled).

33 (Previously presented). The method of claim 23 wherein steps (b) and (c) are performed a plurality of times over a time period.

34 (Previously presented). The method of claim 23 wherein said first average rate is equal to the bit rate of the data source.

35 (Currently amended). A method of transmitting a contiguous sequence of data, said method comprising:

(a) defining a transmission rate to transmit a plurality of packets of said contiguous sequence wherein said transmission rate is greater than the average rate for transmitting said data to a receiver;

(b) transmitting said plurality of packets of said data over a wireless interconnection to a receiver, at a predetermined time and at a rate automatically increased to said second rate without regard to any change in the rate of data received for

transmission, wherein all packets contain at least one of audio data and video data; and

(c) estimating the bandwidth of said wireless interconnection based on respective arrival times, at said receiver, of only those packets of said contiguous sequence of data included in said plurality of packets.

36 (Previously presented). The method of claim 35 wherein said plurality of packets are provided to said transmitter at the maximum rate.

37 (Previously presented). The method of claim 35 wherein said plurality of packets are provided as a burst of packets with at least two packets transmitted in a back-to-back fashion without other packets between them.

38 (Canceled).

39 (Previously presented). The method of claim 35 wherein said plurality of packets is transmitted in a duration less than 1 second.

40 (Previously presented). The method of claim 35 wherein said transmitting is by an APPLICATION LAYER.

41 (Previously presented). The method claim 35 wherein said transmitting is by a TRANSPORT LAYER.

42 (Previously presented). The method of claim 35 wherein said transmitting is by a NETWORK LAYER.

43 (Canceled).

44 (Previously presented). The method of claim 35 wherein said average rate is equal to the bit rate of the source data.

45 (Previously presented). The method of claim 43 further comprising performing said transmitting and said estimating a plurality of times over a time period.

46-96 (Canceled).

REMARKS

This Amendment responds to the final Office Action mailed on August 29, 2011.

The Examiner rejects claims 23-25, 27, 29, 33, and 34 under 35 U.S.C. § 103(a) as being unpatentable over Gvozdanovic et al., U.S. Patent No. 6,660,720 in view of Seo, U.S. Patent No. 6,959,448, Gross, U.S. Patent No. 7,032,020, and in further view of Fang, U.S. Patent Application Pub. No. 2007/0064722. The Examiner rejected each of claims 28, 30, and 31 under 35 U.S.C. § 103(a) as being unpatentable over respective combinations, each citing Gvozdanovic, Seo, Fang, and Gross, respectively. The Examiner rejected claims 35-37, 40, 44, and 45 under 35 U.S.C. § 103(a) as being unpatentable over Gvozdanovic and Gross. The Examiner rejected claims 39, 41, and 42 under 35 U.S.C. § 103(a) as being unpatentable over respective combinations, each including Gvozdanovic and Gross as the primary and secondary references, respectively.

Independent claim 23 as amended, recites the limitations of "defining a second average rate to transmit a second plurality of packets of said data comprising a subset of said first plurality of packets, wherein said second plurality of packets is less than said first plurality of packets, wherein said second average rate is greater than said first average rate" and "said transmitter, at a predetermined time, automatically and without regard to any change in the rate of data received through said input, increasing the rate of transmission to said receiver of said second plurality of packets over a wireless interconnection to said second average rate." Independent claim 35 as amended, recites the limitations of "defining a transmission rate to transmit a plurality of packets of said contiguous sequence wherein said transmission rate is greater than the average rate for transmitting said data to a receiver" and "transmitting said plurality of packets of said data over a wireless interconnection to a receiver, at a predetermined time and at a rate automatically increased to said second rate without regard to any change in the rate of data received for transmission, wherein all packets contain at least one of audio data and video data." The applicant believes that these amendments distinguish over the Examiner's rejection.

Gross discloses a system that tests bandwidth between network segments using special "smart nodes" (SN) defined as "stand-alone boxes . . . added to the network system 100, being placed in-line between a hub and a network device." *See* Gross at col. 4 lines 8-14. These smart

nodes are linked to a central server and programmed to supply test packet profiles (defined as "one or more short packet bursts or one or more packet streams") upon command of the server "to other select SN's at precise times." *See Id.* at col. 3 lines 43-44 and col. 4 lines 58-60. Gross clearly indicates that these test packets are not application data:

> *Traffic other than the test packet bursts used in the test should not be present during the test.* Optionally, to avoid causing excessive disruption in normal network traffic, all burst traffic may be marked as high priority using the IP header TOS field for distinction, so that it gets preferred treatment. In that case, the only restriction is that *normal network traffic be confined to best effort.* However, *if it is determined that other traffic will not be present*, i.e. there is no normal best effort traffic nor any high priority traffic, *the packet burst traffic does not need to be marked as priority packets.*

Id. at col. 6 lines 8-19 (emphasis added).

Thus, Gross fails to teach modifying Gvozdanovic to transmit a subset of the larger set of voice data packets at a burst to measure bandwidth using only the burst of voice data. Gross merely teaches a smart node that sends additional test packets that measure bandwidth. This is a significant distinction because, as taught by Gvozdanovic, packets of voice data could not be sent in the bursts as taught by Gross. Specifically, Gvozdanovic teaches a shared network that sends both voice and data traffic, such as voice-over IP. Specifically, Gvozdanovic teaches that a voice application should enforce parameters, including a sustained cell rate and a peak cell rate (what the Examiner refers to as the claimed first and second average rates, respectively), because otherwise, disruptions in traffic would result from the variable bit rate caused by a voice application that suppresses silence so as to free up bandwidth rather than encode that silence. *See* Gvozdanovic at col. 5 lines 22-45; *Id.* at col. 1 lines 23-48. Essentially, to make the communication network for voice-over IP more efficient, silence is suppressed to free up bandwidth, and the voice signal is "shaped" *down* to its peak cell rate to increase bandwidth for Internet data traffic. *See* Gvozdanovic at col. 6 lines 8-10. ("Traffic shaping may be required on an ATM VCC whenever an application is capable of producing short bursts of data at a short term rate significantly in excess of PCR." Because silence is non-deterministic, however, unpredicted periods of continuous speech by multiple users can overload the network. *See* Gvozdanovic at col. 4 lines 33-39.

The defined maximum peak cell rate for individual applications, however, cannot be ordered by a central server. In other words, an inherent aspect of the disclosure of Gvozdanovic is that the network has no means to *drive* voice traffic to the peak cell rate, but can only enforce it as a limit when it is reached or exceeded by an application, i.e. a server has no means of forcing multiple persons to speak at once so as to attain the PCR. Yet, for the teachings of Gross to be used to estimate bandwidth from a voice signals deposited into the network at the peak cell rate, the network must be able to *cause* the test packets to be sent at a rate that overflows the capacity of a link. *See* Gross at col. 5 line 64 – col. 6 line 2 and col. 6 lines 20-46 (stating that burst traffic is synchronized to traverse, at the same time, the link for which bandwidth is being estimated); *Id.* at col. 12 lines 47-49.[1] This is a fundamental incompatibility between Gross and the primary reference, Gvozdanovic.

The Examiner argues that traffic of Gvozdanovic sent at the peak cell rate could be used as packet bursts as taught by Gross in order to estimate bandwidth by simply marking those packets as they are sent at that peak cell rate. *See* Office Action mailed August 29, 2011 at pp. 15-16. There are several problems with this reasoning. First, Gross *specifically teaches against* this modification, i.e. the prior art cited by the Examiner indicates that normal traffic should either not be present during the test or subordinate to test traffic. Second, as just noted, peak cell rates as taught by Gvozdanovic are enforced limits and are reached in a non-predictable and spontaneous manner, while the technique of Gross requires coordination of packet bursts among several transmitters. Thus, the technique of Gross could not be used in the method of Gvozdanovic. Second, claims 23 and 35 have been amended to specify that automatically increasing the transmission rate to the second average rate at a "predetermined time" and "without regard to any change in the rate of data received." These limitations are clearly not present in the Examiner's combination.

For each of these reasons, claims 23 and 35, as well as their respective dependent claims 24, 25, 27-31, 33, 34, 36, 37, 39-42, 44, and 45 patentably distinguish over the cited prior art.

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1 In the multiple node networks of both Gross and Gvozdanovic the bandwidth of the uplink from any single transmitter *to* the network is a known quantity, e.g. the baud rate of a modem, and need not be measured. What is measured, however, is the network throughput over links *shared* by multiple transmitters, hence measuring bandwidth over *those* shared links using the technique of Gross requires synchronization to overload the shared links using data from multiple transmitters, simultaneously.

In view of the foregoing amendments and remarks, the applicant requests reconsideration and allowance of claims 23-25, 27-31, 33-37, and 39-45.

This Amendment is being submitted with a Request for Continued Examination, together with the requisite fee. The Commissioner is hereby authorized to charge any additional fees, or credit any overpayment, to Deposit Account No. 03-1550.

Respectfully submitted,

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Dated: November 28, 2011

By_____

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